

A NEW SPECIES OF THE SMALL MINNOW MAYFLY GENUS *PLAUDITUS* (EPHEMEROPTERA: BAETIDAE) FROM SOUTH CAROLINA¹

W. P. McCafferty², R. D. Waltz³

ABSTRACT: A newly discovered species of Baetidae (Ephemeroptera), *Plauditus gloveri*, n. sp., is described from larvae taken in South Carolina. Characterization or combinations thereof involving color pattern, antennal length, labral setation, maxillary palp shape and size, distal shape of the labial palps, claw curvature, and tergal spines distinguish the new species. Antennal and claw characterization suggests a possible close relationship with *P. cestus*.

Our examination of larval material of small minnow mayflies recently taken from streams in South Carolina revealed a distinctive new species. Generic characterization of the new species place it within the recently erected genus *Plauditus* Lugo-Ortiz and McCafferty (1998). We are honored to name the new species after James B. Glover (Columbia, South Carolina), who collected the original material.

Plauditus gloveri NEW SPECIES

(Figs. 1-10)

Larva. Body length, 4.5-5.0 mm; antennae length, ca. 1.0 mm; cerci length 1.8-2.0 mm. Base color pale yellow; markings light to medium brown. Head: Head capsule with submedian rows of short, irregular, transverse dashes on either side of medial trunk of epicranial suture, with pair of short transverse dashes below each compound eye, and with oblique pair of spots above each antennal base. Antennae not marked. Dorsal chetotaxy of labrum as in Fig. 1, with pair of long, simple, hairlike, submarginal setae located approximately half way between lateral margin and median line of labrum, and extending beyond distal labral margin for about half length of seta (in some, extending setae slightly more proximate to each other than shown in Fig. 1). Maxillae as in Fig. 2, with maxillary palp narrow and extending beyond apex of galealacinia. Mandibles as in Figs. 3 and 4. Terminal segment of labial palp (Fig. 5) slightly broadening apically, with very slight distolateral point; apical margin slightly concave in lateral half, and rounded and somewhat bulbous in medial half. Thorax: Pronotum with three prominent spots (one medial, two submedian) near anterior margin. Mesonotum with mostly scattered, lateral light brown spots. Metanotum with pair of prominent submedian spots. Hindwingpads absent. Legs not generally marked; anterior face of femora with pair of dorsal and ventral dashes as in Fig. 6, dorsal dash sometimes appearing as two partially connected elongate spots. Claws (Fig. 7) relatively straight. Abdomen: Abdominal segment 7 slightly darker than other segments (possibly indicating darker segment band in other individuals), more noticeable ventrally, and perceptible on specimens only when using black background and low magnification; abdominal terga 1-9 (Fig. 8) each with pair of dark submedian spots (lateral spots also usually present); tergum 2 with conspicuous medial V-shaped mark at anterior margin; tergal surfaces with weak creases and minute, simple setae; posterior margin of

¹ Received January 22, 1998. Accepted March 13, 1998.

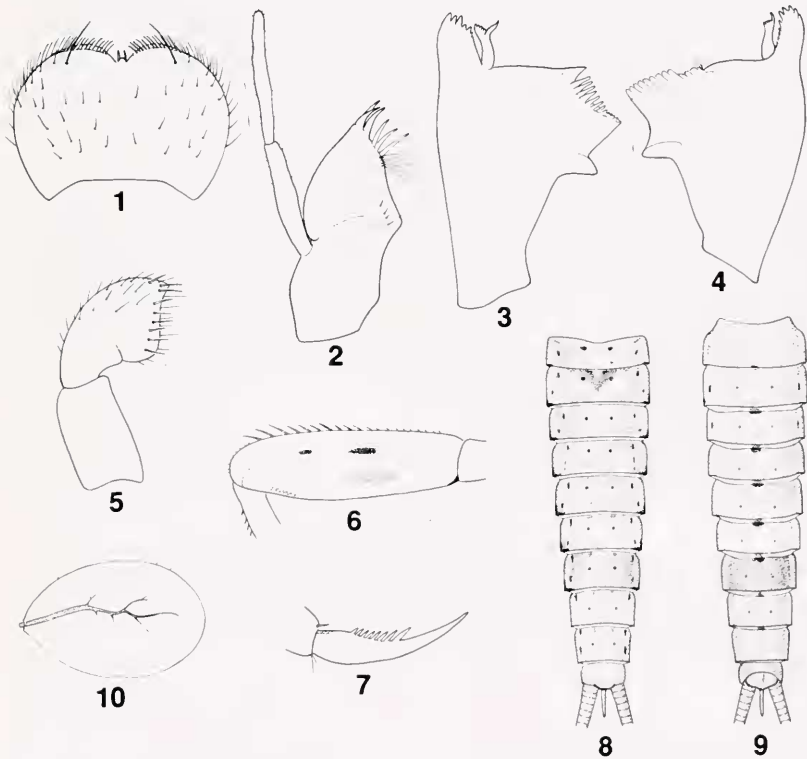
² Department of Entomology, Purdue University, West Lafayette, IN 47907, USA.

³ IDNR, Division of Entomology and Plant Pathology, 402 West Washington, Rm. W-290, Indianapolis, IN 46204, USA.

terga with slightly separated, triangular shaped spines slightly longer than basal width. Abdominal sterna (Fig. 9) with submedian pair of diffuse brown spots; darker medial maculation present on sterna 2-8 (prominent and larger on sterna 3-5 and overlapping sterna somewhat at anterior and posterior sternal margins); lateral subdermal striations evident on sterna 1-6. Gills (Fig. 10) with margins rounded apically, smooth, and with only very few scattered, short, simple setae; gill tracheal trunk not extending much beyond midlength of gill and with lateral branches only weakly developed (details of tracheation evident only under high magnification). Cerci with three light brown bands (not always perceptible). Median caudal filament highly reduced, subequal in length to mid-dorsal length of tergum 10.

Adult. Unknown.

Material examined. Holotype: Larva, SOUTH CAROLINA, Cherokee County, Kings Creek @ S-11-209, 3 miles west of Smyrna, VI-25-1995, J. Glover (deposited in the Purdue Entomological Research Collection, West Lafayette, Indiana). Paratypes: 1 larva (broken, some parts miss-



Figs. 1-10. *Plauditus gloveri*. 1. Labrum (dorsal). 2. Maxilla. 3. Right mandible. 4. Left mandible. 5. Labial palp. 6. Midfemora (anterior face). 7. Claw. 8. Abdomen (dorsal). 9. Abdomen (ventral). 10. Gill 5.

ing), same data and deposition as holotype; 2 larvae (mounted on slides, medium Euparal), SOUTH CAROLINA, Fairfield County, Little River @ S-20-60, 3.1 miles southwest of Jenkinsville, VI-28-1995, J. Glover (same deposition as holotype).

Remarks. Larvae of *Plauditus gloveri* are easily distinguished from all other known larvae of *Plauditus* on the basis of morphological and color pattern characterization given above. Seven other species of *Plauditus* have been reported from the southeast: *P.alachua* (Berner), *P. armillatus* (McCafferty and Waltz), *P. bimaculatus* (Berner), *P. cinctutus* (McCafferty and Waltz), *P. dubius* (Walsh), *P. punctiventrīs* ((McDunnough), and *P. rubrolateralis* (McDunnough). On the basis of its relatively straight tarsal claw, *P. gloveri* may be closely related to *P. cestus* (Provonsha and McCafferty). *Plauditus gloveri* and *P. cestus* have antennae that are clearly shorter than other known species of *Plauditus*, although those of *P. gloveri* are not nearly as short as those of *P. cestus* (Provonsha and McCafferty 1982). *Plauditus gloveri*, however, differs from *P. cestus* in numerous other characteristics, including the position of the pair of extending dorsal labral setae, the relatively much longer maxillary palps, femoral markings, the longer and somewhat more pointed tergal spines, and patterning of the abdomen and cerci.

Abdominal segment banding on segment 7 is evident but not well developed on the specimens of *P. gloveri* that we have examined. It is probable that segment 7 banding will be more pronounced in larger series. All of our specimens were female larvae, and it is also possible that the banding as well as other patterning will be more developed in males. This possibility is based on the fact that such sexual dimorphism has been documented for certain other species in the genus *Plauditus* (e.g., *P. dubius* and *P. virilis* [Ide 1937]). Abdominal segment banding occurs on segment 5 in most specimens of *P. cestus*, but has never been seen on segment 7.

Although all material of *P. gloveri* has been taken from the Broad River Basin in South Carolina, no specific ecological data are yet associated with this new species.

ACKNOWLEDGMENTS

We thank Jim Glover (Columbia, South Carolina) for collecting the new species and initially recognizing that it did not match other known species. We especially thank Arwin Provonsha (West Lafayette, Indiana) for the illustrations used herein. This paper has been assigned Purdue Agricultural Research Program Journal No. 15602.

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